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CONTENTS

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PROTECTION OF VITAMIN C IN CANNED FOODS AGAINST ENZYMATIC DESTRUCTION

• One of the unusual features of modern food preservation by canning is the high degree of protection afforded vitamin C during the canning procedure. Of all the vitamins, C is probably the most readily destroyed. Spinach, for example, will lose one-half its vitamin C content upon standing three days at room temperature and practically all of its antiscorbutic potency in seven days' time (1).

Oxidation is the principal factor operating in the destruction of vitamin C. The rate of oxidation depends—among other things—upon temperature, degree of exposure to oxygen, and presence of substances which catalyze the oxidation reaction. Chief among the catalysts is the enzyme known as ascorbic acid oxidase. This enzyme is instrumental in the loss of physiologically active forms of cevitamic acid (ascorbic acid) by catalyzing the transformation of this latter substance into dehydrocevitamic acid (dehydroascorbic acid), which is more readily decomposed by a nonenzymic reaction into a compound having no antiscorbutic activity. This enzyme is apparently widely distributed in the vegetable kingdom, having been found in cabbage, carrots, lima beans, parsnips, peas, pumpkin, spinach, squash, string beans, sweet corn and swiss chard. Fortunately, the cevitamic acid oxidase is completely inactivated by heating to 100°C. for one minute (2).

In modern canning practice field crops are harvested at the optimum stage of maturity and canned as rapidly as possible—usually within a few hours' time. Early in every canning procedure the product receives either a blanch or a pre-cook or exhaust, the primary purpose of which is to drive out air from biological tissues and to establish a vacuum by expanding the contents of the can by heat, contraction upon cooling resulting in a partial vacuum within the can. These preliminary heat treatments together with the heat process serve both to destroy oxidative enzymes and to remove most of the air from the can.

Thus, the various practices in the canning procedure combine to afford excellent protection for this most labile accessory food factor known as vitamin C.

(1) 1936, Food Research, 1, 1

(2) 1936, J. Biol. Chem., 116, 717

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THE LOSS OF INFANTS IN DELAWARE

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Dover, Del.

The state of Delaware has never, in comparison with other states of the Union, occupied a very favorable position in respect of its rate of loss of infants. Only during two of the last ten years have its losses been so few as to assure for it a position closely approximating that of the United States Registration Area. During several years there were from fifteen to twenty more deaths per thousand living births than were recorded in the Area. In 1936 the position was unfavorable to the extent that eight points separated the rates. Had the rates of the state been as low as the rate of the Area, there would have been not 254 deaths, but only 223 infant deaths among the recorded births, which numbered 3922.

TABLE I

INFANT MORTALITY RATES

(Deaths per 1,000 Living Births By States)

1927		1928	
1 Arizona	130.1	1 Arizona	141.5
2 Maryland	81.5	2 S. Carolina	96.5
3 Maine	80.	3 Colorado	89.4
4 N. Carolina	79.1	4 N. Carolina	85.7
5 Louisiana	77.4	5 Georgia	81.6
6 Virginia	75.5	6 Tennessee	80.9
7 W. Virginia	71.9	7 Maryland	79.6
8 Tennessee	71.6	8 DELAWARE	78.4
9 DELAWARE	70.6	Registration	
Registration		Area	68.7
Area	64.6	(4 states not	
(8 states not		reporting)	
reporting)			
1929		**1930**	
1 N. Mexico	145.5	1 N. Mexico	145.4
2 Arizona	133.3	2 Arizona	116.6
3 Colorado	91.4	3 Colorado	94.3
4 S. Carolina	91.0	4 S. Carolina	88.7
5 DELAWARE	81.2	5 W. Virginia	81.0
Registration		6 N. Carolina	78.6
Area	67.6	7 DELAWARE	78.5
(2 states not		Registration	
reporting)		Area	64.6
		(2 states not	
		reporting)	
1931		**1932**	
1 N. Mexico	145.4	1 N. Mexico	119.4
2 Arizona	109.6	2 Arizona	95.9
3 DELAWARE	81.7	3 S. Carolina	77.2
Registration		4 W. Virginia	75.0
Area	61.6	5 D. Columbia	72.9
(2 states not		6 Colorado	71.5
reporting)		7 Nevada	69.8
		8 Maryland	69.
		9 Tennessee	67.6
		10 Virginia	67.2
		11 DELAWARE	67.1
		Registration	
		Area	51.6
		(1 state not	
		reporting)	
1933		**1934**	
1 N. Mexico	136.1	1 N. Mexico	126.3
2 Arizona	111.4	2 Arizona	103.5
3 S. Carolina	78.2	3 S. Carolina	83.0
4 Texas	75.5	4 Georgia	78.9
5 Nevada	73.2	5 N. Carolina	77.9
6 Louisiana	70.1	6 Tennessee	73.7
7 Tennessee	69.5	7 Colorado	72.7
8 Colorado	68.9	8 Virginia	72.6
9 Virginia	68.5	9 Texas	71.9
10 W. Virginia	68.2	10 Maine	70.6
11 D. Columbia	67.2	11 Maryland	70.4
12 Georgia	66.7	12 Louisiana	69.1
13 Maine	66.3	13 Florida	68.2
14 N. Carolina	66.	14 Alabama	67.8
15 Maryland	65.8	15 W. Virginia	67.4
16 Alabama	65.1	16 D. Columbia	65.3
17 Mississippi	63.6	17 Kentucky	64.9
18 Florida	62.9	18 Mississippi	64.8
19 DELAWARE	60.4	19 Missouri	63.1
Registration		20 DELAWARE	61.4
Area	58.1	Registration	
		Area	60.1
1935		**1936**	
1 N. Mexico	129.3	1 N. Mexico	114.7
2 Arizona	111.7	2 Arizona	108.9
3 S. Carolina	79.3	3 S. Carolina	80.8
4 Colorado	72.7	4 Virginia	73.8
5 Texas	71.7	5 Colorado	73.0
6 Nevada	71.0	6 Louisiana	72.8
7 Virginia	69.6	7 D. Columbia	72.5
8 Louisiana	69.4	8 W. Virginia	71.2
9 N. Carolina	68.8	9 Nevada	70.4
10 Georgia	68.3	10 Georgia	69.9
11 DELAWARE	66.4	11 Maryland	69.2
Registration		12 Texas	69.0
Area	55.7	13 Tennessee	68.5
		14 N. Carolina	68.5
		15 Alabama	67.4
		16 DELAWARE	64.8
		Registration	
		Area	56.9

*Executive Secretary, Delaware State Board of Health.

The extent to which this condition is brought about by excess mortality among colored infants is very plainly disclosed by a tabulation of white and colored deaths during the year 1935, the latest year for which complete statistics are available. The figures presented are those prepared by the Census Bureau. These are the best figures for comparison, since the methods of tabulation and classification are the same for all the states reported upon. The states selected for tabulation include some of the southern states where the proportion of colored to white population is relatively high, and as well, other states where health work has for years been on an assured basis, where the infant mortality rates for a number of years have been very presentable and where the total number of colored births have exceeded 500 a year.

TABLE II
INFANT MORTALITY RATES—1935
States by Color

State	White	Colored	All
Alabama	52	81	62.8
Arkansas	47	49	47.1
Connecticut	42	73	42.7
D. Columbia	41	96	59.4
DELAWARE	53	134	66.4
Florida	50	88	61.9
Georgia	60	81	68.3
Kentucky	57	100	58.7
Louisiana	58	86	69.4
Maryland	52	100	62.0
Massachusetts	48	93	48.3
Mississippi	48	59	53.9
Missouri	55	84	56.9
New Jersey	44	77	46.2
New York	46	83	48.0
N. Carolina	69	90	68.8
Pennsylvania	49	81	50.8
S. Carolina	62	96	79.3
Tennessee	61	84	64.0
Virginia	59	97	69.6
W. Virginia	60	72	60.6

In only one particular do the rates of these states resemble each other—namely, that in each instance the rate of loss of the colored exceeds that of the whites. There is a very great variation in respect of the measure of difference. One state reports rates almost identical. There are other where the difference is from 20 to 50 per cent of the white rate. There are a number where the colored rate approximates twice the height of the white. In Delaware, of all the states, the difference is most marked. While the rate of loss of white infants is only 53 per thousand (a figure which may be considered fairly presentable), the rate of loss of the colored is nearly three times as great. To the height of the rate of this section of the population is very largely due the unfavorable position of the rate of the state as a whole.

An examination of this condition has resulted in the preparation of certain tabulations indicative of the trends of mortality according to the ages of the decedent infants of the two races. It has been possible to procure figures for the two-year period 1935 and 1936. The total number of infants dying in this period, of whom it was possible to procure full information, was 507, all but 13 of the total number dying. Of these, 349 were white and 158 were colored. During the two years there were registered the births of 7977 infants. Physicians reported the births of 6733, and midwives the births of 1244. There were 386 deaths in the group of children whose births were reported by physicians, while 121 deaths took place among the smaller group attended by midwives. The infant mortality rate of the physicians' cases was approximately 53, that of the midwives' cases approximately 97.

The following tabulation gives the ages at which the infants of the two groups died.

TABLE III
INFANT DEATHS
1935-36

Times When Death Occurred	White Infants Number	White Infants Percent	Colored Infants Number	Colored Infants Percent
Under 1 day	74	21.3	25	15.7
1 "	23	6.6	6	3.8
2 "	20	5.7	4	2.6
3 "	3	.9	3	1.9
4 "	7	2.0	3	1.9
5 "	4	1.1	4	2.6
6 "	5	1.4	2	1.3
7 "	4	1.1	1	.7
8 to 14 days	20	5.7	9	5.6
15 to 31 days	15	4.3	10	6.3
T'l under 1 mo.	175	50.1	67	42.4
1 mo.	30	8.8	16	10.0
2 "	20	5.3	10	6.3
3 "	32	9.3	12	7.6
4 "	16	4.7	13	8.0
5 "	14	4.	10	6.3
6 "	16	4.7	3	2.0
7 "	8	2.4	10	6.3
8 "	11	3.2	4	2.6
9 "	10	2.7	6	3.9
10 "	8	2.3	3	2.0
11 "	9	2.5	4	2.6
TOTALS	349	100.0	158	100.0

It will be seen that almost exactly half the white deaths occurred during the first month of life, the colored not being subject to such a rate of loss. The difference between the two, however, was almost entirely accounted for by the difference in the losses of the first day of

birth. Twenty-one per cent of the white deaths took place within that time, as opposed to losses of but fifteen per cent to which the colored were subject.

Tabulation of the same deaths in accordance with the personnel of the attendance was then undertaken. Midwives attended a large proportion of the colored births. Thus, of the 121 infant deaths, on whose births midwives were in attendance, about 75% were colored. It will be seen that the lessened percentages of fatalities which the colored group presents is connected, to quite an extent at least, to the lessened fatality during the same period which affects those infants on whom midwives are the attendants.

TABLE IV

Times of Death of 386 Infants, dying from a group of 6733 attended by physicians.

	Number	Percent	Rate per 1,000
Under 1 day	93	24.0	13.8
1 "	22	5.6	3.3
2 "	20	5.2	3.0
3 "	4	1.1	.6
4 "	8	2.2	1.2
5 "	4	1.1	.6
6 "	5	1.3	.7
7 "	3	.9	.4
8 to 14 days	22	5.6	3.3
15 to 31 days	17	4.4	2.5
T'l under 1 mo.	198	51.4	29.4
1 mo.	31	8.0	4.6
2 "	26	6.7	3.9
3 "	29	7.5	4.3
4 "	15	3.9	2.2
5 "	16	4.1	2.4
6 "	18	4.7	2.7
7 "	10	2.6	1.5
8 "	12	3.1	1.8
9 "	12	3.1	1.8
10 "	8	2.1	1.2
11 "	11	2.8	1.6
TOTALS	386	100.0	57.4

TABLE V

Times of Death of 121 Infants, dying from a group of 1244 attended by midwives.

	Number	Percent	Rate per 1,000
Under 1 day	6	4.9	4.8
1 "	7	5.7	5.6
2 "	4	3.3	3.2
3 "	2	1.7	1.6
4 "	2	1.7	1.6
5 "	4	3.3	3.2
6 "	2	1.7	1.6
7 "	2	1.7	1.6
8 to 14 days	6	4.9	4.8
15 to 31 days	9	7.5	7.2
T'l under 1 mo.	44	36.4	35.4
1 mo.	15	12.4	12.0
2 "	4	3.3	3.2
3 "	15	12.4	12.0
4 "	14	11.5	11.3
5 "	8	6.6	6.4
6 "	1	.8	.8
7 "	8	6.6	6.4
8 "	3	2.5	2.4
9 "	4	3.3	3.2
10 "	3	2.5	2.4
11 "	2	1.7	1.6
TOTALS	121	100.0	97.4

It will be realized that any deductions made at all from the column which notes the percentages must be very carefully made. For example, a column showing those identical percentages would result had only half the infants died, provided that the figure showing the number who died were halved in each instance. Of much more significance is the rate of loss, which is also shown. Halving the number of deaths would have halved that rate of loss, though the percentages might have remained the same.

It will be seen that the rate of loss within a day after birth is only one-third as high among infants attended by midwives as it is among those having physician attendants (4.8 to 13.8). That is the only time when midwives' cases appear to have an advantage over cases attended by physicians. The advantage which a midwife's infant has during the first day is immediately threatened, so effectively that at the end of the first month the rate of loss of midwives' infants (35.4) is approximately 20% higher than the rate of loss of physicians' cases. The cumulative difference becomes greater almost with each succeeding month till the eleventh, so that at the end of the year midwives' cases show a fatality nearly double that of the physicians' (97.4 to 57.4). Were it possible to secure for all infants as low a rate of mortality within twenty-four hours as is enjoyed by those infants delivered by midwives and thereafter, as well, the favorable rates which indicate the skill of the medical attendant, the state infant mortality rate would be less than fifty. On the other hand, could all infants ushered into the world by the ministrations of midwives have the benefit of the medical attention evidently enjoyed by those of the other group, not 121, but only 72 would have died. Neither of these conditions can be more than very partially met. It would appear that physicians must continue to labor under the disadvantage of being burdened with all the difficult deliveries, not only in their own practices but in those of the midwives as well. There are no figures which indicate the number of cases transferred from midwives to physicians on account of difficult deliveries, and thereafter recorded as physicians' cases. Somewhat offsetting these, however, is the fact that mid-

wife deliveries probably include a larger proportion of illegitimate births, where an unfavorable mortality rate is almost inescapable.

It has been possible, moreover, to indicate the difference in mortality of the two groups according to disease. Among the 6733 infants whose births were attended by physicians, there were in the two years 56 deaths from pulmonary affections (Nos. 106, 107 and 108 of the International List of Causes of Death); 27 deaths from injuries at birth (No. 160 of the same classification); 104 deaths from prematurity (No. 159); 56 deaths caused by diarrhea (No. 119); and 14 deaths said to have been due to congenital debility (No. 158). The corresponding figures from the group of 1244 infants of the midwives' group were 32 pulmonary; 3 injury at birth; prematurity 12; diarrhea 24; and congenital debility 13. The tabulation shows the rates per thousand of these losses.

TABLE VI
DEATHS FROM CERTAIN DISEASES
1935-36

Causes of Death	Deaths among 6733 children whose births were attended by physicians		Deaths among 1244 children whose births were attended by midwives	
	Number	Rate	Number	Rate
Pulmonary Disease (Nos. 106, 7 & 8)	56	8.3	32	25.7
Diarrhea (No. 119)	56	8.3	24	19.3
Congenital Debility (No. 158)	14	2.1	13	10.4
Prematurity (No. 159)	104	15.5	12	9.7
Injury at Birth (No. 160)	27	4.0	3	2.4

The lack of professional care and attention is shown especially by the height of the rates of mortality from pulmonary disease and from diarrhea.

Delaware, it should be remembered, is one of the few states of the Union in which since 1929 there has not been a system of organized medical relief. The lack of that relief naturally falls hardest on that portion of its population which tends to employ midwives as delivery personnel in preference to physicians. It seems quite impossible to escape from the conclusion that, had adequate medical relief been provided, the number of children who might have received medical care might have been largely increased and a considerable reduction in infant loss might have been brought about.

In the two years 1920 and 1921, the total number of infants dying in the state numbered 1091. In 1935 and 1936 there were but 520, a fifty per cent reduction in fifteen years. Hereafter reduction at a similar rate can hardly be expected, but an improvement from the present rate (about 64 per 1000 births) is very easily possible. A rate between forty and fifty should be the goal of our efforts. It may be obtained if efforts are directed along the following lines:

1. The excess mortality now affecting those infants attended by midwives is capable of being cut down. This is directly the function of the public health worker and of those able to bring about the provision of medical relief for that section of the population who sorely need that assistance.

2. A reduction of losses due to prematurity is possible. This is entirely a problem in which the medical profession must lead the way. Many cases may require special hospital treatment, based upon the maintenance of the required temperatures, preventing infection, and the provision of the proper medical and nursing care. Chicago and New York are at present leading the way in the newer developments of this specialty in the pediatric field.

3. By no means have the possibilities been exhausted in connection with what can be done in preventing the deaths of infants from diarrheal disease. The rate of these losses are at present far in excess of the rates which are obtained in a number of the sister states. The pulmonary affections, from which annually forty or more infants have lost their lives in recent years, are responsible for greater losses than need be endured. These deaths have declined 50% in fifteen years, but are still capable of being cut in half.

These are the tasks which the state should resolutely face.

PNEUMONIA IN DELAWARE

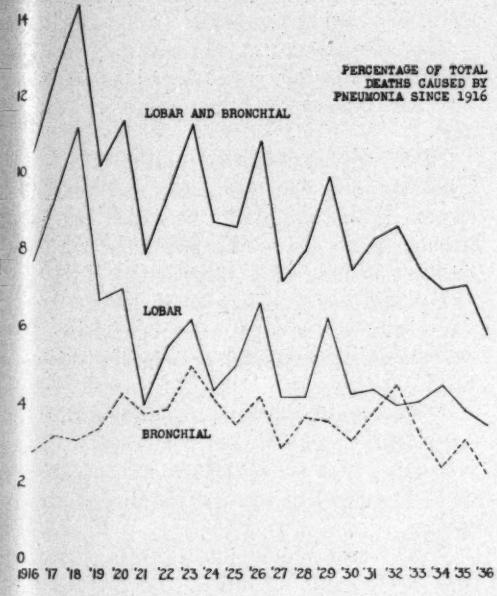
STANLEY WORDEN, M. D.* and JOSEPH R. BECK, M. D.**
Dover, Del.

Through the past five years an average of 251 persons have died each year in this state

*President, Delaware State Board of Health.
**Director, Communicable Disease Control, Delaware State Board of Health.

from pneumonia. Of this number a yearly average of 132 died of lobar pneumonia.

The following graph gives the percentage of total deaths caused by pneumonia since 1916.



The death rate per 100,000 population for the last five years is:

	1932		1933		1934		1935		1936	
	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate
Lobar	127	52.5	136	56	151	61.7	130	52.8	119	48
Bronchial	153	63.2	111	45.7	83	33.9	103	41.9	96	38.7
*Total & Unspecified	299	123.6	262	107.9	236	96.3	236	95.9	224	90.4

*Including capillary bronchitis.

The State Board of Health offers its aid in reducing these figures and has every sound reason for believing that the figures can be reduced. The means to this end will be a greater and wider use of specific serum. Supporting this contention are these simple figures. Of 1,614 cases of Type I pneumonia, *not treated with serum*, 25% died; of 504 cases, same type, *treated with serum* within 96 hours of onset, 11.1% died. Of 992 cases of Type II pneumonia 42% of the untreated died, while of 136 cases of the same type who received serum within 96 hours of onset only 27% died.[1] Ideally, the outlook is even better than this for Cecil[2] has shown that the death rate in Type I can be cut to one-sixth the standard rate if the serum is administered in the first 24 hours.

To bring to the patient the proper serum these things are required:

1. Sputum must be examined and type determined.

2. There must be an accessible supply of appropriate serum.

3. Serum must be administered intravenously. The last step can be performed only by the practitioner, but it is suggested that the first two can be best performed by your Board of Health.

A tentative plan is outlined thus:

1. Establishment of typing and serum stations at scattered points throughout the state—at the downstate hospitals and possibly at other centers; (Wilmington Hospitals, Milford Emergency Hospital, and the State Board of Health laboratory are now using the Neufeld rapid method of typing.)

2. Training in our laboratory of technicians so that procedure will be uniform.

3. Guarantee to the hospital of its typing fee so that if the patient is indigent the hospital is paid for the service by the State Board of Health.

4. Maintaining at these selected stations a ready supply of serum and guaranteeing in like manner the cost of serum. At present price the estimated average needed dose of 80,000 units costs about $30.00 per patient. It is estimated that there would be roughly 250 cases of lobar pneumonia in the state each year that would be eligible for serum therapy.

It has been stated that this is a "tentative" plan. The State Board of Health will be glad to receive comments and suggestions of the prospective users—Delaware's practitioners.

1. Lord, F. T. & Heffron Roderick: Lobar Pneumonia and Serum Therapy; special references to Massachusetts study. London: Humphrey Milford, 1936.

2. Cecil, R. L.: Effects of every early serum treatment in pneumococcus type I pneumonia, J. A. M. A. 108:689 Feb. 27, 1937.

THORACOPLASTY: The Delaware Experience

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Marshallton, Del.

During the past four years there have been selected thirteen cases for extra-pleural thoracoplasty operation from among the Sanatorium patients.

These patients had positive sputum and open cavities on x-ray films prior to operation, and were classified as far advanced pulmonary tuberculosis.

Artificial pneumothorax was attempted on all these patients, prior to their thoracoplasty, and nine had phrenicectomy performed prior to operation. These operations (artificial pneumothorax and phrenicectomy) were unsuccessful in closing the diseased areas.

Of these thirteen cases, two had sectional removal of three ribs; eight had sectional removal of seven ribs, and three had sectional removal of ten ribs.

These removals were on the same side in each case, as no bilateral thoracoplasties were attempted.

The number of sectional rib removals was based on stereoscopic x-ray films.

TABULATION OF THESE CASES IS AS FOLLOWS:

No. Operated	Present Condition	Present Status
1—June 1933	Clinically Well	Housework
2—April 1934	Dead	
3—Dec. 1934	Clinically Well	Housework
4—Dec. 1934	Clinically Well	Housework
5—Jan. 1935	Clinically Well	Nursing
6—May 1935	Clinically Well	Stenography
7—June 1935	Unimproved	In Sanatorium
8—June 1935	Clinically Well	Stenography
9—July 1935	Clinically Well	Housework
10—Jan. 1936	Arrested	In Sanatorium, will probably be discharged in 2 or 3 months.
11—March 1936	Arrested	Not working, doing well at home.
12—June 1936	Unimproved	In Sanatorium
13—May 1937	Undetermined	In Sanatorium

SUMMARIZING THESE CASES WE HAVE:

No. Operated	No. Improved	No. Unimproved
13	9	2
	Undetermined	Died
	1	1

The clinically well and arrested cases are those on whom the operation rendered the sputum negative for tubercle bacilli, and arrested all clinical symptoms. While the unimproved cases are those who still have a positive sputum, and the clinical symptoms are unabated.

The longest length of stay of the discharged cases in the Sanatorium after operation was thirty months; the shortest length of stay was four months; and the average was fifteen months following operation.

The longest stay in the hospital for this operation was thirty-six days; the shortest was twenty-seven; and the average was thirty days.

There were no operative fatalities. In a few instances, however, energetic post-operative treatment was required. One case has gone through a normal confinement and delivery fourteen months after operation.

The post-thoracoplasty death occurred two years and six months after operation; the operation having failed to improve this patient.

There were twelve females and one male on whom this operation was performed. Their respective ages were 17-25-26-28-28-28-28-30-34-37-37-40 and 42 years, at the time of operation.

The average weight just prior to operation was 127¼ pounds, and at the time of discharge of the improved cases, the average weight was 131 pounds.

CASE HISTORY

The following case was first seen in our chest clinic, July 1934: Female, White, Age 24, Single.

Family History: Mother and father living and well. Three brothers living and well. Three brothers dead, two in infancy, other died of pneumonia. One sister living and well, none dead. Grandmother died of pulmonary tuberculosis.

Past History: Patient was a contact of the grandmother. No recent illness. Operated for ovarian cyst three and one-half years ago.

Present Illness: Has had a cough for the past year, becoming productive the past six months. Has raised small amounts of blood twice recently. Appetite fair. Sleeps well. No night sweats. No recent loss of weight.

Physical: Weight 99¼ pounds, Temperature 98.3, Pulse 72. Nose and throat negative.

*Director, Brandywine Sanatorium.

CHEST:

Right Lung: Impairment above second rib, and fourth dorsal spine. Breath sounds fairly clear throughout. Rales after cough above third rib and seventh dorsal spine.

Left Lung: Negative.

HEART:

Negative.

DIAGNOSIS:

Pulmonary Tuberculosis.

X-RAY REPORT, JULY 12, 1934:

Right Lung: Above the level of the third rib and sixth dorsal spine is soft, strand-like infiltration, with a cavity in the apex which measures 3 cms. in diameter. Rest of the lung field is apparently clear.

Left Lung: In the extreme apex is an apparently soft salient. Off from the hilus, anterior lung field, at the level of the second interspace, is a band of soft strand-like infiltration.

Admitted to Sanatorium July 18, 1934.

On admission: Temperature 99.2, Pulse 86, Weight 104¾ pounds.

Sputum: Positive for tubercle bacilli—G IX.

Urine: Negative.

Under dates of July 19th, 21st, 24th, 25th and August 2nd, 1934, attempts at right artificial pneumothorax were unsuccessful, due to no free pleural space being found.

August 30, 1934: Right temporary phrenicectomy was performed.

X-RAY REPORT, OCTOBER 10, 1934:

Right Lung: Above the level of the third rib and sixth dorsal spine is dense, soft, infiltration with a cavity in the apex which measures 2½ cms. in diameter.

Left Lung: Off the hilus, anteriorly, at the level of the third rib, is a soft area of infiltration.

Right diaphragm is elevated approximately 4½ cms. higher than the corresponding left.

Sputum report September 26th and October 30th continues positive for tubercle bacilli.

Vital capacity: 1.7 liters.

January 1935, admitted to hospital for right extra-pleural thoracoplasty.

January 14, 1935—first stage thoracoplasty performed; entire first rib removed, and most of the second and third.

January 29, 1935—second stage thoracoplasty performed; sectional removal of fourth, fifth, sixth and seventh ribs.

In hospital twenty-eight days.

Sputum report March 5, 1935—positive for tubercle bacilli G II. Sputum report March 13th and 26th—negative for tubercle bacilli. Subsequent monthly sputum reports were negative for the tubercle bacillus.

Discharged Sanatorium May 26, 1935—symptom free.

Weight on discharge 117 pounds.

Temperature range 96.6 to 98.8. Pulse range 54 to 78.

X-RAY FILMS ON DISCHARGE:

Right Lung: There has been a posterior extra-pleural thoracoplasty of the upper seven ribs with good collapse of the upper two-thirds of the lung. No open visible cavities.

Left Lung: From the upper border of the hilus, posteriorly, mid lung field, second interspace, there are a few, fairly well-defined strands.

Check has been kept on this patient since discharge from Sanatorium through our outside chest clinics. Last examination was made July 14, 1937, at which time patient was symptom free and weighed 131 pounds.

X-ray films showed no change over the findings as noted on discharge from the Sanatorium.

All these patients had a similar history, except for a few minor variations.

These results are very encouraging, when one considers that each patient had positive sputum from open cavities, which could not be closed by any other means, with an extremely bad prognosis, if left untreated.

MORE CASES ARE CONSULTING PHYSICIANS

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Comparative figures are here presented to show Delaware physicians the increased maternal and child case load they are being asked to handle as a result of the currently ex-

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panding maternal and child health program of the State Board of Health.

Many of these cases are indigent or near-indigent. The sick child is not treated, the prenatal is not examined in our clinics. At the request of organized medicine in Delaware, they are referred to the practicing physicians.

The distribution of them among the doctors is planned. Where the patient names a preferred physician, he is called. Where none is known to the patient, the names of those nearest are suggested by the public health nurse. Every midwife is required to carry with her a complete list of physicians, their addresses and telephone numbers, and to call them for certain clearly defined conditions. If, as happens, they refuse to come, she cannot be held at fault for a resulting tragedy. (No midwife is licensed except by request of a physician.)

In practice, the fairness of these refers is at times questioned by the physician. He is naturally reluctant, if not actually unable, to give these free patients the care they should have, at his personal expense, and at the expense of time and service he wishes to devote to his paying cases.

Yet this maternal and child health program in Delaware is an educational one, integrated about the physician. He is the keystone of its practical success.

These facts are therefore presented with the hope that, since the current procedure is unsatisfactory to Delaware medical men individually, they will as a group devise and promote such modifications of it as seem to them wise, rather than permit public need to go at times unanswered, with the eventual possibility that leadership in such a matter may be undertaken by other, less well-qualified groups or forces.

A glance at these figures will show that, as yet, the quantitative increases in state "maternity and infancy work" are not large. An exception is found in the prenatal work, where comparatively little systematic effort had been made until a year ago.

Improvement of the quality of work done has been our primary objective. The quantitative increases result in part from a 15% increase in nursing staff in the second period shown, and in part from improved reporting based on a systematic nurse's daily report sheet now in use.

The two periods shown consist of the six months immediately before the expanded program was developed, and the same six months when it was under way. Items 1 to 5 refer to the Well Baby Clinics held by the state. It may be noted in general upon comparison with 6, 8 and 9, that numbers of home visits tend to vary inversely with clinic attendance.

Emphasis has been placed on prenatal instruction and referral, and on midwife supervision, because of the nationally and locally high rates of deaths of both mothers and infants during and immediately following parturition. This is in the nature of a national scandal. Records of this board of health, in common with most others in the United States, show negligible reductions in the death rates in these groups during the past 20 years.

Recent noteworthy efforts to improve this situation in Delaware are found in:

1. The postgraduate course in obstetrics offered last spring by the New Castle County Medical Society, open to all the physicians of the state.

2. Intensive effort by the public health organization to find prenatals early and get them all under medical care. (Items 11, 12, 13).

3. Quarterly instruction meetings for midwives, where they are shown how best to perform their duties, and warned of things they must not do; plus monthly check-ups upon them by their district public health nurse, to ensure that they are clean and that their equipment is complete.

Because of the small numbers involved, no statistical significance may be attached as yet to the reduction in the state's maternal mortality, over the contrasted periods, from 99 to 39; and very little significance is found in the infant mortality increase in this same period from 61.4 to 67.3.

The full effect of the work now being done may not be perceptible for several years, if indeed it can strictly be expected to show fully until it has been carried through an entire generation.

CHILD & MATERNAL HYGIENE ACTIVITIES OF DELAWARE STATE BOARD OF HEALTH

	Jan.-June inclusive 1936 Per cent increase	Wil.	N. C.	K.	S.	Total	Jan.-June inclusive 1937 Wil.	N. C.	K.	S.	Total
1. Child Conferences with Physician	28	122	13	66	11	212	182	4	60	25	271
2. Child Conferences with Nurse	29	163	20	76	43	302	256	24	73	36	389
3. No. attending under 1	8	2654	24	261	14	2944	2590	13	231	349	3183
4. No. attending 1-5 years	24	1905	5	162	4	2076	2287	5	143	135	2570
5. No. attending over 5	37	3172	4	2	2	3180	4317	8	5	42	4372
TOTAL 1-5	23%					8200					10125
6. Infants visited at home	20	1826	528	674	983	4011	1933	728	1240	898	4799
7. Birth Certificates Delivered	–1	862	285	363	210	1720	755	352	259	342	1708
8. Children Visited —New	–28	656	73	—	14	743	202	8	32	293	535
9. Children Visited —Old	–4	1670	13	21	52	1757	1270	240	108	58	1676
TOTAL 6-9	6%					8231					8718
10. Midwives Instructed	350	11	—	29	51	92	99	7	138	171	415
11. Pre-natal Instructions	178	328	23	34	23	408	331	109	411	282	1135
12. Pre-natal sent to Hospital or Clinic	13	293	—	—	4	297	305	7	12	11	335
13. Pre-natal sent to Physician	144	142	—	—	—	142	224	24	44	55	347
(Maternal Mortality Rate)						(99)					(39)
(Infant Mortality Rate)						(61)					(67)

PLANNING AND COOPERATION

RICHARD C. BECKETT, B. S.*
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When the United States Government was established a century and a half ago none of the framers could visualize some of the problems that would face a nation grown to maturity. For instance who could have imagined that the Delaware River Basin and all its tributaries would enjoy a territory as large as Belgium with the population of five million spread over an area of 12,000 square miles. They undoubtedly saw that certain problems would have to be solved by the institution of compacts between neighboring states. Since then however, certain problems have arisen necessitating a more flexible arrangement than that of compacts. The Council of State Governments which was a creation of the Spellman Fund, early recognized that there was a need for a governmental set-up which would solve many interstate problems and that also there should be a clearing house of information for various state agencies and state officials. The result of this idea has been the formation of Interstate Commissions on Cooperation formed by some 30 states which have certain definite legislative status granted to them by the several states. These commissions consist of five senators, five representatives, and five members representing state planning agencies, administrative offices, and the public in general. Through these state organizations on interstate cooperation it is possible to set up interstate commissions to deal with problems that many feel are too large for individual states yet are problems which should not necessarily be handled by the Federal government. There is a "no man's land" where these organizations might very well function.

Such an organization is the Interstate Commission on the Delaware River Basin, known in brief as Incodel. The 4 states, namely: New York, New Jersey, Pennsylvania and Dela-

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ware have appointed such commissions consisting of one Senator, one Representative, one administrative official of the State Government, and one representing the State Planning Commission. The Interstate Commission on the Delaware River has been functioning for two years and as a result of this cooperative effort has established a central office in Philadelphia consisting of an executive secretary, engineers and planners for the purpose of making a contemplated survey of the whole Delaware River shed from the standpoint of water use, recreation facilities, pollution control and other interests. At the present time committees on planning, quality of the water and quantity of the water have been established and actual engineering work is being done at this time. The complexity of the problem may well be illustrated by the fact that the city of New York has been allocated five hundred million gallons of water per day from the Delaware River watershed to be used by that city and to be discharged into another watershed. Other problems arising are the future needs of water by the City of Philadelphia and the cleaning up of the Delaware River to provide a better raw water supply for the City of Chester as well as Camden. The need for greater planning of recreation and highway facilities is very evident as the whole watershed grows to maturity. The three states, New York, New Jersey and Pennsylvania, have done considerable base planning which will enable them to cooperate in this larger study of the land and water uses of the Delaware River watershed. The state of Delaware has not established a State Planning Commission, although a planning commission for New Castle County is in effect.

The question of pollution of the Delaware River is a very urgent one and anyone passing over the river knows there is a tremendous lot of work to be done. This is probably the most pressing and urgent problem facing Incodel. It is not only a question of the use of water for potable purposes, but also as to losses occurring to the shipping industry as well as the effects on fish and oyster beds and the possible effect on the saline content of the tidal estuary. Certainly now is the time to establish certain standards for this river if for no other purpose than to control future pollution. The engineering committee of Incodel is now setting up standards for this portion of the river and will be actively engaged for sometime in making active tests of the water from Trenton on to the tidal estuary so as to set up certain standards that can be reasonably met by the various towns and industries. Incodel assumes a four-state governmental organization that will apply the same standards to all municipalities, and industrial concerns contributing pollution to the Delaware River will succeed where other efforts have failed. Heretofore, one city was loathe to do anything until the other city across the river had done likewise. Here is an opportunity to attack this problem on an entirely different basis.

While the state of Delaware does not have as intense an interest in this problem as possibly some of the other states, certainly there should be sufficient interest on the part of the state of Delaware in the restoration of this river to a better condition. The initial commission on this work was appointed by ex-Governor Buck, and it was his appointments that made the first step in cooperation on the part of Delaware. His appointments were ex-Secretary of State Walter Dent Smith, Mr. Charles Gant, and the writer. Governor McMullen has also cooperated in this work by appointing four commissioners: Senator Norris Wright, Representative Chauncey Holcomb, Mr. Charles Gant, and the writer.

Any contemplated study such as this costs money and the Interstate Commissions on Cooperation have appropriated certain moneys to Incodel, namely—Pennsylvania, $12,500; New Jersey, $7,500; New York, $7,500; and Delaware is asked to contribute $2,500.

Thus has been borne the plan to restore one of the great national resources of this country to a condition more nearly approximating its virgin state and to restore to the people of this watershed the use of that which belongs to everyone in these four states.

EDITORIAL

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SOCIAL SECURITY

Social Security is undoubtedly here to stay.

Seemingly this applies not only to those broad provisions towards which of late so much attention is directed, but to those which, under various "Titles," are intended not only to assure leadership and direction, but even actual participation with the individual states in their efforts at health promotion. The Federal departments which form the channels of communication, as between Washington and the states individually, in respect of these efforts, are the Public Health Service and the Children's Bureau.

Of the two departments named, the program of the Health Service is perhaps the broader one. Accepting both the spirit and the letter of the proposals, Delaware has availed itself very largely of the opportunities afforded it of supplementing or rounding out its health program, and many activities now in full swing in the state were made possible through that department.

The county units have been assisted in the efforts they have been making to limit the spread of tuberculosis. The state program for the control of syphilis and gonorrhea has well entered upon a period of expansion which bids fair to include in its operation the most remote sections of the state. New clinics have been opened for the treatment of cases, and the opening of still more are under consideration. Law enforcement has entered more largely into the program, as epidemiological investigations provide the information respecting disease transmission which is essential before action. In these broadening activities the city of Wilmington has participated, as well as the rural districts, programs intended to meet the needs of all portions of the state having been undertaken. The Wilmington city program, arrived at after consultation with its health authorities, has taken the form of an important strengthening of the laboratory facilities provided for its residents, and the provision of more facilities for the protection of food supplies, particularly milk, in addition to the anti-tuberculosis and anti-syphilis work similar to that participated in by the counties.

The Children's Bureau participation, on a basis not so broad—since it is limited to rural districts or areas of special economic distress—has been directed mainly towards securing for the mothers and infants of the state the fullest measure of safety which it is possible to secure. The increased county and state staffs are now engaging themselves at that duty, confident that resulting from their efforts material progress will be made in reducing the toll of infant and maternal losses. It has been possible very largely to supplement the program of effort undertaken with state funds alone, and, with much greater at-

tention being paid to the educational and the nutritional aspects of the problems presented, a much broader field is being cultivated. The health problems of childhood, either developmental or associated with the special vulnerability which childhood presents to a number of the communicable diseases, form also a portion of the Children's Bureau program and are being handled by that subdivision of the Division of Child Hygiene which is responsible for the medical inspection of the children attending the state schools.

It is not possible to report that progress similar to that made in respect of the Public Health Service activities and the activities connected with the increased work being undertaken for mothers and infants, has been made in respect of crippled children. This work, undertaken under a special "Title" by the Children's Bureau, was quite largely an entirely new undertaking in the state. However, material progress has been made, and confidence can be expressed that when completed the plans shall have made adequate provision for meeting the needs of these unfortunates. There are probabilities that private benefactions will soon make available for these the advantages of the very best treatment available. The purpose and aim of State Board of Health participation is to assure the fullest measure of cooperation between these private philanthropic efforts and that Division of the Children's Bureau which administers that Title of the Act.

RURAL SYPHILIS CONTROL

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Syphilis control is an important function of all health departments. It is quite evident that this disease exceeds all other communicable diseases in incidence. With this in mind, the Delaware State Board of Health has organized a venereal control program which has been well received and should make great headway in the control of syphilis especially. I shall present some material from the Sussex County records so that those physicians who are not familiar with the program may know just what is being done.

*Health Officer, Sussex County.

Sussex County is entirely rural. It is the most southern county in Delaware. On the east, it is bounded by the Atlantic Ocean and the Delaware Bay. The south and west boundaries are formed by the eastern counties of Maryland. On the north is Kent County, Delaware. The land area of Sussex County is nine hundred and forty-five (945) square miles. There are no large towns, with the exception of the resort, Rehoboth, which has 12,000 to 18,000 as a summer and about 1,000 as a winter population. Georgetown, the county seat, is the location of the County Health Unit. It is the geographical center of the county and has a population of 1,763. County population is 47,000.

VENEREAL CLINICS FOR REFERRED CASES

The first clinic for diagnosis and treatment of venereal disease was opened in Georgetown during October 1934. This clinic was originally intended to be conducted one afternoon weekly. Growth was such that it was necessary to extend this clinic into the evening during September 1936.

After studying the geographic distribution of patients in the Georgetown clinic, it was found that a large percentage had to travel from fifteen to twenty-five miles from their homes to avail themselves of the clinical facilities. The need of an additional clinic on the western side of the county was shown by this study. The town of Seaford offered a building which could be used for a clinic. This was found acceptable and a weekly clinic for referred cases of physicians was opened there during June, 1937.

The above-mentioned work was begun after due consultation and in cooperation with the majority of the practicing physicians in this locality. There was the understanding that treatment would be rendered only to those cases referred by physicians (with the exception that an infectious case could be given one treatment and be returned to the private physicians). Diagnostic service was to be given to all who applied, however. Cases diagnosed in the clinic are referred to their family doctor for treatment. Many are returned to the clinic if the physician thinks that proper private treatment is not possible because of the patient's economic status.

Since October 1934, eight hundred and twenty-one persons have applied for syphilis diagnosis at these clinics. Three hundred ninety-six (396) or 48.3 per cent gave positive blood reactions (Wassermann and Kahn tests). Four hundred and twelve (412) or 50.3 per cent were negative. Thirteen (13) or 1.4 per cent reacted doubtfully in blood tests.

FOLLOW-UP WORK AVAILABLE TO ALL PHYSICIANS

In September 1936, a full time nurse was added to the staff to do venereal disease follow-up and clinic work. All active cases are thoroughly questioned to obtain names of contacts. These contacts when located are urged to have an immediate examination and have a Wassermann reaction done. Infective cases who stop treatment too soon are urged to attend and continue treatment. Legal action is rarely necessary to compel treatment, though it is resorted to occasionally. This complete follow-up service is available to all those physicians who desire it. Of course, all private cases are treated very confidentially and urged to return to their family physician.

It is interesting to note the incidence of syphilis in the following groups who applied to the clinic for diagnosis. It is unlikely that these groups are at all representative of any section of the population, however. The marked difference in the percentage of positive Wassermann and Kahns between the white and colored races seem significant.

	Total Applying	Number Positive	Per Cent Positive	Number Negative	Per Cent Negative	Reaction Doubtful	Per Cent Doubtful
White	174	51	29.1	121	69.4	2	1.5
Colored	647	345	53.4	292	45.2	10	1.4
Males	435	196	45.0	232	53.3	7	1.7
Females	386	200	51.8	181	46.9	5	1.3

To July 1937, twenty-five cases of syphilis have been discharged as non-infectious or cured. Twenty-two cases were investigated and found able to pay. These were referred to their own physicians for treatment.

The present publicity campaign of the United States Public Health Service and the State Board of Health should assist physicians in getting many cases of syphilis for private treatment. The doctor can help his health department by prompt reporting of all cases of venereal disease. Should there be any question, the health officer in the county concerned, or any member of the State Board of Health Staff, will be glad to be consulted.

LABORATORY COMMENTS

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DEFERRED DARKFIELD EXAMINATION

By deferred darkfield is meant the examination of serum at periods ranging from a few hours to several days after their collection. Reihl, in 1919, and coincidentally Scherechewsky using glass capillary pipettes sealed by fusing in a flame, first demonstrated the practicability of this method. Reihl found recognizable spirochaeta pallida as long as 14 days after collection. The immediate darkfield is the preferable test, but when it is not available to the physician the deferred darkfield examination can be had by submitting some of this serum in our regulation mailing case to this laboratory. This mailing outfit is the same as that of New York State Department of Health and of several other states. It consists of glass capillary tubes, a corked test tube container; a small tube containing wax for sealing the capillary tubes; mailing case and instructions for obtaining serum.

It is extremely important to select for darkfield examination, lesions which are as young as possible. Old lesions contain relatively fewer organisms because of the destructive effect of local tissue reactions. No antiseptic should be used on the sore for at least 24 hours before the examination, nor antisyphilitic drug and particularly no intravenous arsphenamine should be used before the darkfield examination. The surface of the lesion should be cleansed with sterile saline in order to remove most of the extravenous bacteria. Care should be taken, of course, to avoid hemorrhage. Hemorrhage will introduce into the preparation too many red corpuscles which will defeat the very object of the examination by hiding the spirochaetes in the darkfield. While syphilitic primary lesions are extremely contagious, it is a well known fact that the spirochaetes are not on the superficial parts

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of the lesion. It is, therefore, necessary, in order to make a successful darkfield examination to get deep tissue fluid from the lesion.

In case of one or two negative reports, physicians should submit several serums for darkfield examination.

PNEUMOCOCCUS TYPING BY NEUFELD REACTION

One of the important recent advances in the serum treatment of lobar pneumonia is the more rapid determination of the invading type of pneumococcus in as much as clinical results have shown that the treatment of pneumonia is influenced in a large measure by the early administration of serum.

In 1902 Neufeld observed that when pneumococci are mixed with homologous immune serum, there occurs in addition to agglutination a swelling of the peripheral zone of the individual pneumococci. In 1932, Armstrong, Logan and Smeall reported that when sputum is mixed with immune serum and examined in the fresh state the specific swelling takes place permitting the satisfactory typing of the bacteria within a few minutes. In 1933, Sabin perfected the rapid method of typing by adding methylene blue to the slide so that the organisms stand out more distinctly.

This laboratory has immune serum for making examination for types 1, 2, 3, 4, 5, 6, 7 and 8. It is important that the sputum be collected in a clean container and submitted to this laboratory by carrier within two hours after its collection. If it is not possible to have sputum reach the laboratory in that time, it should be packed in ice.

For the Neufeld reaction a small fleck of sputum is placed by means of a platinum loop on each of 8 thin cover slips and about 3 times the quantity of undiluted rabbit typing serum and methylene blue mixture is added and mixed well using a different type serum mixture for each bit of sputum. The cover slips are inverted on our ordinary glass slide and pressed down to make a thin layer of stained sputum between cover slip and slide. The preparation is then examined under the microscope with an oil immersion.

A positive reaction takes place usually in a few minutes and is indicated by the appearance of a definitely outlined capsule about the pneumococci present in sputum. The sharpness of the outline of the capsule is perhaps of more diagnostic importance than the degree of swelling. If no reaction appears immediately the preparation should be examined again at the end of 30 minutes. In a negative test, the pneumococci appears with a capsule as a halo, without definite outline.

WHAT RESULTS MAY BE EXPECTED FROM A PUBLIC HEALTH NURSING SERVICE?

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It is my purpose to discuss in this paper the results which may be expected from the public health nursing service in the Delaware State Board of Health. And now, what may we expect from the public health nursing service?

We may expect a better understanding by the public of the whole purpose of the present-day health movement. The purpose of the service is to carry on an intensive educational program directed to the securing of adequate medical care, both curative and preventive. This will result in more people seeking medical supervision.

For example, the lives of mothers and babies will be protected. Much of the public health nurses' time is given to urging the pregnant woman to place herself under expert medical care. Parents are urged to consult a physician concerning the care of their babies. They are also advised to seek medical guidance in the rearing of their children.

The public health nurse is constantly striving for an increased number of children immunized against communicable diseases. She endeavors to secure this through continuous education of parents, teachers and civic groups.

An important responsibility of the public health nursing service is to create interest of parents in the correction of physical defects in their children. Improved nutrition in the home is one of the fundamental objectives for which they work. A deeper understanding has been created among parents as to the importance

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of emotional factors in the mental and physical development of the child.

The care and comfort of the sick are greatly improved by the public health nurses' visits in the homes for the purpose of giving demonstration and instruction. Public health nurses are available to the physicians on request for this purpose. In this respect, an improved technique in the care of the tuberculous has been developed in their homes by the visits of the public health nurse.

Knowing that public health nursing must be kept at a high level, so that it may effectively meet the problems which confront it, I am listing in conclusion the requirements for future appointment to our nursing staff:

A. *Professional*

1. Graduation from approved high school
2. Graduation from approved training school for nurses connected with a hospital with a daily average of at least fifty (50) patients
3. Postgraduate training of at least one semester in college or university giving accredited course in Public Health Nursing, or in lieu thereof,
4. Experience of at least one year under qualified nursing supervision in a generalized public health nursing service. This preparation can, and preferably should be arranged for in this state
5. Registration in this state or eligibility for such registration

B. *Other*

1. Delaware birth and residence is desirable, though not essential
2. American citizenship is an essential
3. Age on first appointment shall be between 25 and 45 years unless there be special considerations
4. Good moral character
5. Good physical health, evidenced by medical certificates on first appointment, and thereafter when asked for
6. The possession of good judgment, ready initiative, and interest in and ability to work with people is essential
7. Receipt or qualification for receipt of driver's license

DELAWARE HAS UNIQUE PROGRAM OF DENTAL HEALTH EDUCATION

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A careful study of the programs of dental health education throughout the United States reveals the fact that Delaware is unique. For example, many of the states employ a dentist as director of the division of mouth hygiene, who may have on his staff a large group of dentists, who work chiefly in the schools. They make examinations, do educational work, and in some cases do the actual corrective work, such as fillings and extractions.

Another group of states employ dental hygienists to do demonstration work. In other words, it is their purpose to "sell" mouth hygiene to individual communities, in the hope that the local Board of Education, civic groups, etc., will assume the responsibility for the dental hygienist, or the dental clinic, as the case may be.

In still other states, the dentists or the dental hygienists are employed by the local school board with the aid of funds received from the State Board of Education. So far as I have been able to ascertain from the study of current dental publications, or direct communication with the directors themselves, no state except Delaware offers a complete state-wide program.

Delaware's program is unique in reaching every public school, city and rural, white and negro. It is, furthermore, the only state in which a complete statistical report is available that includes ninety-eight per cent of the pupils from kindergarten through the twelfth grade. (Approximately two per cent of the pupils were absent on the days when examinations were made.)

Again, in the matter of obtaining dental corrections, Delaware is unique, as Wilmington is the only school district that maintains dental clinics paid for with city funds. All others function as a result of the efforts of local community groups, such as Parent-Teacher Associations and civic groups. Just

*Director of Oral Hygiene, Delaware State Board of Health.

recently, one familiar with the activities of other programs stated that Delaware was to be envied for its community interest, and this statement is undoubtedly true. Everywhere we have received splendid cooperation that in itself evidences real interest.

During the past year, so much time was required for examinations that it was necessary to limit the prophylaxis to kindergarten, the first two grades and the opportunity classes, but with some instruction regarding mouth hygiene to all, either as individuals or in groups.

It has been our regret that we have been unable to devote more time to educational work and to some method for securing dental corrections. This in itself is a stupendous task, due to our large negro population and our even larger group of indigent and low-wage residents. It has been estimated that forty per cent of our school population belongs in these two groups. In so far as only twenty per cent of the pupils returned "corrective advice" cards signed by their own dentist, or presented no defects at the time of the examinations, it is readily seen that the people of this state are not sufficiently educated in the knowledge of mouth hygiene, nor in the necessity for having corrective work done. It is true that many of the pupils did go to the dentist as was reported by the majority of the schools throughout the state; however, these lists did not present evidence that all necessary work had been done, hence they were not included in the twenty per cent mentioned above.

Due to the fact that the personnel of the Oral Hygiene Division is inadequate to take care of the educational needs in addition to examining all the children in the state, we feel that it might be well to limit our examinations to the pupils in the first six or seven grades, complete prophylaxis for all in kindergarten, the first three grades and opportunity classes and concentrate the remainder of time on educational activities. We could then, for the sake of records and to demonstrate the possible changes taking place as a result of our work, make a state-wide examination in another five years.

MISCELLANEOUS

Social Security Tax

Operators of private laboratories, private sanitariums, and physicians employing one or more are advised by the Commissioner of Internal Revenue to make immediate tax returns as required under the provisions of Titles VIII and IX of the Social Security Act to avoid further payment of drastic penalties which are now accruing.

The Commissioner pointed out that every person employed in such work came under the provisions of Title VIII, which imposes an income tax on the wages of every taxable individual and an excise tax on the pay roll of every employer of one or more. This tax is payable monthly at the office of the Collector of Internal Revenue. The present rate for employer and employee alike is one per cent of the taxable wages paid and received.

Under Title IX of the Act, employers of eight or more persons must pay an excise tax on their annual pay roll. This tax went into effect on January 1, 1936, and tax payments were due from the employers, and the employers alone, at the office of the Collector of Internal Revenue on the first of this year. This tax is payable annually, although the employer may elect to pay it in regular quarterly installments.

The employer is held responsible for the collection of his employee's tax under Title VIII, and is required to collect it when the wages are paid the employee, whether it be weekly or semi-monthly. Once the employer makes the one per cent deduction from the employees's pay, he becomes the custodian of Federal funds and must account for them to the Bureau of Internal Revenue.

This is done when the employer makes out Treasury form SS-1, which, accompanied by the employee-employer tax, is filed during the month directly following the month in which the taxes were collected. All tax payments must be made at the office of the Collector of Internal Revenue in the district in which the employer's place of business is located.

Penalties for delinquencies are levied against the employer, not the employee, and range from 5 per cent to 25 per cent of the tax due, depending on the period of delinquency. Criminal action may be taken

against those who wilfully refuse to pay their taxes.

The employers of one or more are also required to file Treasury forms SS-2 and SS-2a. Both are informational forms and must be filed at Collectors' offices not later than July 31, covering the first six months of the year. After that they are to be filed at regular quarterly intervals. Form SS-2 will show all the taxable wages paid to all employees, and SS-2a the taxable wages paid each employee.

Participation in a state unemployment compensation fund, approved by the Social Security Board, does not exempt employers from the excise tax under Title IX. Nor does the fact that there is no state unemployment compensation fund relieve the employer of his Federal tax payments. In those states where an unemployment compensation fund has been approved, deductions up to 90 per cent of the Federal tax are allowed the employer who has already paid his state tax. These deductions are not allowed unless the state tax has been paid.

This tax is due in full from all employers in states having no approved fund. The rate for 1936 was one per cent of the total annual pay roll containing eight or more employees, and for 1937 it is two per cent. The rate increases to three per cent in 1938 when it reaches its maximum. The annual returns are made on Treasury form 940.

An employer who employs eight or more persons on each of twenty calendar days during a calendar year, each day being in a different calendar week, is liable to the tax. The same persons do not have to be employed during that period, nor do the hours of employment have to be the same.

To America's Schools—Your Health!

Once more, during the coming fall, winter and spring, the Voices of Medicine will salute the people of America, with the toast "YOUR HEALTH." This is the well-known title of the radio program of the American Medical Association and the National Broadcasting Company. The coming season will be the fifth; the first two years were devoted to health talks, and the last two seasons to dramatized health messages. This year, the salutation will be addressed particularly to the teachers and students in the junior and senior high schools, in the hope that the program will be helpful in illustrating, amplifying, and enriching the health teaching in those schools. The program will be on the air while schools are in session, so that the program may be utilized directly in the thousands of schools which now have or soon will have radio and public address systems reaching the classrooms. Programs will be announced in advance in HYGEIA, The Health Magazine. While the program is planned especially for high schools, it will not sacrifice the interest which it has held for listeners in the home. To teachers, students and stay-at-homes, the American Medical Association and the National Broadcasting Company will address their message of health education with the familiar musical theme HALE and HEARTY, written especially for the program, and the toast, "To America's Schools, YOUR HEALTH!"

First Supplement to the U. S. P. XI

The Pharmacopoeial Convention of 1930 approved the following Resolution which had been passed, in substantially the same form, by many preceding U. S. P. Conventions:

> "*Supplements* — It is recommended that the Committee of Revision be authorized to prepare supplements to the Pharmacopoeia, or lists of admissions or changes at any time they may deem such action desirable."
>
> (U. S. P. XI, page lxvi)

Under this authorization the U. S. P. Committee of Revision and Board of Trustees have prepared and published the First Supplement to the U. S. P. XI.

This First Supplement has just been released and will become official on December 1, 1937. It is a booklet of about 100 pages in a substantial binding and may be obtained from the Mack Printing Company, Easton, Pa., from your wholesale druggist, or from any other distributor of the U. S. P., at $1.00 per copy, postpaid. In this supplement, all of the texts revised to June 1, 1937, are reprinted in full so that there can be no misunderstanding of the authorized changes.

Pharmacists and all other users of the U. S. P. should promptly supply themselves

with copies of the First Supplement to the Eleventh Revision.

American Congress of Physical Therapy

Announcement is made of the 16th Annual Clinical and Scientific Session of the American Congress of Physical Therapy, September 20, 21, 22, 23 and 24, at the Netherland Plaza Hotel, Cincinnati. The program includes many special features: sectional meetings in the specialties, symposia on short wave diathermy, hyperpyrexia, electrosurgery, etc. Fever therapy and the treatment of vascular diseases occupy an important place and will be discussed by prominent workers in the field. The educational aspects of physical therapy and the relationship of physical therapy technicians to physicians and hospital departments will be thoroughly dealt with. Other features include technical and scientific exhibits, and a full day of hospital clinics where technic will be adequately demonstrated.

Physicians, their technical assistants, and nurses working in institutional departments of physical therapy are urged to attend this important session. It undoubtedly will be one of the outstanding medical gatherings of the year. There will be no registration fee.

International Congress of Radiology

Chicago, Ill.—One of the most outstanding scientific events ever held in the United States has been set for Chicago this September, when the Fifth International Congress of Radiology convenes. It will be the first time that the world leaders in the medical and scientific development field of x-ray and radium have met in America, according to Dr. Arthur C. Christie, Washington, D. C., president of the Congress. The dates are September 13 to 17, inclusive, and the meeting place is the Palmer House. More than 2,500 delegates and visitors from all parts of the United States and abroad are expected to attend.

The annual medical conventions of the leading radiological bodies of this country will be merged with the International Congress. These include the American Roentgen Society, the American College of Radiology, the Radiological Society of North America, and the American Radium Society.

The first International Congress convened in London in 1925. Meetings are held every three years: In Stockholm in 1928, in Paris in 1931 (where they paid tribute to the then living Madame Curie, co-discoverer of radium), and in Zurich in 1934.

Leaders in other branches of medicine will participate in the Congress. More than 250 scientific papers will be read at the five-day meeting. These will be delivered in each lecturer's own language and will be automatically flashed on screens in English, German and French as the papers are read.

What will probably be the greatest scientific and technical exhibit in the history of a radiological congress will be assembled by physicians, physicists and manufacturers of such equipment in conjunction with the congress.

The general secretary of the congress, Dr. Benjamin H. Orndoff, is in charge of headquarters at 2561 North Clark street, Chicago, Ill.

BOOK REVIEWS

Ophthalmoscopy, Retinoscopy and Refraction. By W. A. Fisher, M. D., Professor of Ophthalmology, Chicago Eye, Ear, Nose and Throat College. Fourth edition. Covers, Pp. 210 with 240 illustrations. Cloth. Price, $2.00. Chicago: H. G. Adair Printing Company, 1937.

Amongst chapters in this volume are those on Ophthalmoscopy; Diseases of the Retinae, Choroid, Optic Nerve; Fields of Vision; Optical Principles; Applied Refraction—all contained in 172 pages. In addition there is a chapter of 31 pages on orthoptic treatment.

Senile Cataract: Methods of Operating. By W. A. Fisher, M. D., Professor of Ophthalmology, Chicago Eye, Ear, Nose and Throat College. Third edition. Pp. 150, with 181 illustrations. Cloth. Price, $2.00. Chicago: H. G. Adair Printing Company, 1937.

This volume contains chapters on Fuchs's, Barraquer's, Holland's, Wright's, Knapp's, Homer Smith's, Van Lint's, Elschnig's methods of cataract extraction. Chapters VI, VII and IX, by Fisher, describing his methods of operating and a method of acquiring operative technic, contain worthwhile information. The last chapter by Nugent contains some good points on the fitting of correcting lenses after cataract extraction.